Before the
FEDERAL COMMUNICATIONS Commission
Washington, DC 20554

In the Matter of Transforming the 2.5 GHz Band	))))	WT Docket No. 18-120

REPLY COMMENTS OF SPRINT CORPORATION

I. INTRODUCTION AND SUMMARY

Sprint Corporation ("Sprint") hereby replies to comments on the Federal Communications Commission's ("Commission's") *Notice of Proposed Rulemaking* in this proceeding ("*NPRM*").[1] Sprint supports the numerous EBS commenters who note that the 2.5 GHz band is neither "broken" nor requires "fixing," and agrees with the joint comments of NEBSA and CTN that the 2.5 GHz EBS band needs "finishing."[2]

Sprint's initial comments provided ample evidence of the extensive use of the band[3] and the reliance Sprint places on its win-win partnerships with the EBS community.[4] While there have been many stops and starts, the 2.5 GHz band is now a success story after nearly two decades of transition. Sprint's use of 2.5 GHz spectrum (both owned and leased) is a critical component of its near-nationwide 4G network and is the linchpin to its launch of 5G in nine

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1 *Transforming the 2.5 GHz Band*, Notice of Proposed Rulemaking, FCC 18-59 (rel. May 10, 2018) ("*NPRM*").

2 NEBSA/CTN Comments at 8.

3 Sprint Comments at 2-3.

4 NEBSA/CTN Comments at 6 ("EBS licensees can choose to lease a significant portion of their licensed spectrum to commercial wireless providers and, in exchange, obtain access to advanced broadband services needed for education through the creation of a shared network.")

markets in 2019 and additional markets after that. This deployment would not be possible without the secondary market leasing arrangements and mutually beneficial partnerships that have developed over many years between Sprint and the EBS community.[5]

Commenters such as Northern Arizona University Foundation[6] and NEBSA/CTN describe the benefits resulting from the public-private partnerships between Sprint and the EBS community and educational use of Sprint's expanding 2.5 GHz-based network, which heavily utilizes leased EBS spectrum. NEBSA/CTN note that thousands of teachers and students in Los Angeles have Sprint-connected iPads, while Sprint-enabled hotspots in low-income communities across the country keep students connected to virtual classes, schools, and libraries, helping to bridge the digital divide and address the homework gap.[7] Educators use Sprint's services not only to deliver broadband access to the classroom and to students lacking such access at home, but also for a variety of other educational purposes.[8]

The record in this proceeding also confirms that the Commission's decades-long failure to license the EBS "white space" has frustrated the full deployment of commercial broadband in the 2.5 GHz EBS band. This failure has limited the geographic reach of public-private partnerships and resulted in numerous EBS coverage gaps where the spectrum was licensed

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5 CTN/NEBSA Comments at 4 ("The use of EBS spectrum has been greatly enhanced by unique public-private partnerships that have been forged between educators and commercial operators.")

6 Northern Arizona University Foundation, Inc. Comments at 6 ("NAUF and its commercial partner are excellent examples of the benefits that allow for NAUF to support NAU Online and its distributed learning at more than 30 campuses throughout Arizona, as well as NAU's PL program.")

7 NEBSA/CTN Comments at 4.

8 NEBSA/CTN Comments at 6, footnote 13, highlighting use of Sprint devices to support the University of Maryland, Illinois Institute of Technology and the University of Central Florida.

many years ago. Sprint's comments described how these gaps create operational challenges and inefficiencies where EBS spectrum is licensed and deployed.[9] A wide range of commenters in this proceeding – from both the EBS community and commercial industry – agree that the Commission should modernize the 2.5 GHz framework so that these gaps can be eliminated, and that 2.5 GHz EBS white space spectrum can be licensed to further the twin goals of commercial broadband deployment and greater educational achievement. To accomplish these goals, as discussed below, the Commission must first "rationalize" existing site-based EBS licenses efficiently by extending their licensed service areas to county borders, and then license the remaining spectrum to complete the long-running 2.5 GHz broadband transition.

II. THE COMMISSION SHOULD RATIONALIZE EXISTING EBS LICENSE AREAS BY EXPANDING THEM TO THE NEAREST COUNTY BOUNDARIES.

The record in response to the *NPRM* supports the Commission's finding that licensing the EBS spectrum based on regular geographic areas "can promote broadband deployment, ensure the spectrum is put to its most beneficial use, allow licensees to respond to consumer demand for new services, and maximize the probability of success for new services."[10] Thus, before *any* further licensing takes place in the band, whether by auction or priority filing windows, the GSAs of existing EBS licenses must first be rationalized to standard geographic areas.[11] Rationalization of the existing EBS GSAs will "make them consistent with established geographic boundaries used in other services and . . . provide greater consumer clarity regarding

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9 Sprint Comments at 5.

10 *NPRM* at ¶10.

11 *See, e.g.,* Competitive Carriers Association Comments at 2-3; Hispanic Information and Telecommunications Network, Inc. Comments at page 2 ("HITN also supports an initial expansion of existing EBS GSAs to county boundaries, to eliminate gaps between service areas, before addressing the licensing of Unassigned EBS spectrum.")

service availability."[12] There is little doubt that moving from irregularly shaped GSAs to well-defined boundaries will create efficiencies, reduce the risk of interference, enhance deployments, and provide greater certainty for all 2.5 GHz stakeholders.[13]

Sprint's initial comments focused on the need to rationalize existing GSAs so they conform to county-based boundaries.[14] There was significant agreement by numerous commenters that the Commission's proposed rationalization should be based on counties and not census tracts.[15]

By adopting a county-based approach, the Commission will accelerate the access to wireless broadband at 2.5 GHz in unserved rural areas. Most existing EBS excess capacity leases between commercial service providers (including Sprint) and EBS licensees provide for the commercial service provider to have immediate access to any modified GSA. Thus,

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12 WCA Comments at 12.

13 Voqal Comments at 18-19; HITN Comments at 4 ("Due to the gradual evolution of EBS from a site based licensing scheme to a geographic one, gaps were inadvertently created between existing licensees and geographic shapes were created that do not conform to recognized geographic boundaries.")

14 Sprint Comments at page 4.

15 AT&T Comments at 6 (noting that the Commission should " [e]nhance the attractiveness of EBS spectrum for mobile broadband services in the proposed auction by adopting the proposal to rationalize the boundaries of EBS licenses by converting each Geographic Service Area ("GSA") into a single license made up of the counties it covers or intersects."; CCA Comments at 2-3 ("Expanding to county lines also will provide certainty to existing licensees and potential new entrants and prevent any unnecessary delay in the auction of remaining licenses."); NEBSA/CTN Comments at 8 ("Geographically, rationalization might be based on a process of extending GSAs to county boundaries given the alignment of counties with traditional educational services areas."); Voqal Comments at 4 ("We support the option posed in the NPRM to rationalize existing license areas by expanding them to county boundaries where licensee already intersect a portion of the county. *This is the fastest way to put unlicensed EBS spectrum to use for 5G*.") (emphasis added); Northern Michigan University Comments at 7; HITN Comments at 4-5; VIYA Comments at 14.

following rationalization, commercial service providers who lease 2.5 GHz EBS spectrum will be able to quickly expand the geographic reach of their service offerings.

Rationalizing the EBS spectrum along county boundaries, rather than census tract boundaries, maximizes the likelihood that the Commission will be licensing the remaining white space, whether future licensing occurs through priority filing windows or auctions, in areas of sufficient size and shape that these areas can be served by the new licensee consistent with operational and technical considerations, such as avoiding co-channel interference.[16]

A host of commenters echoed Sprint's concerns that expansion to census tracts would create significant technical challenges.[17] HITN noted "if expanded only to the nearest census tract, gaps would continue to exist [and] remaining gaps . . . might result in technical difficulties in providing service to such areas and interference concerns with regard to simultaneous operations of different services in adjacent small census tracts."[18] Educational Broadband Corp. likened census tract licensing to adding "saw blade teeth" to the current smooth circle.[19] It noted, this will be "extremely burdensome to map and rationalize the boundary, it will provide

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16 Comments of School Board of Miami-Dade County, Florida, *et al*, at page 9 (expansion merely to census tract boundaries "will create interference and service architecture problems.")

17 Comments of Bridge the Divide Foundation, Inc. and Rocket Mountain Broadband, LLC, at pages 3-4 ("From an engineering standpoint, having different licensees of a single spectrum block for each census tract would be a nightmare in terms of frequency coordination."). *See also* South Florida Comments at 9 ("census tracts are often so small that expansions to such boundaries may produce service areas with small jutting areas or irregular borders that will create interference and service architecture problems."); WISPA Comments at 8 ("[e]xpanding GSAs only to census tract borders will leave smaller, irregularly shaped slivers between GSAs that will be difficult to serve or license without causing interference to adjacent GSAs or requiring inefficient architectures, even assuming there would be available vertical infrastructure in the sliver.").

18 HITN Comments at 5.

19 Educational Broadband Corp. Comments at 1.

unmanageable amounts of interference to the areas within the 'teeth' from the areas between the 'teeth'. . .In the county line approach, there will be a far more smooth, definable area that is simple to map."[20]

In its comments, Sprint agreed with the Commission's proposal that EBS county expansion occur automatically and in as simplified a fashion as possible. EBS incumbents such as NACEPF[21] and Voqal[22] support this view. In addition, Sprint suggested that the Commission adopt a minimum overlap threshold of 10%, a position also favored by VIYA.[23] Commenters proposing far higher thresholds ignore the fundamental need for county-based rationalization and appear interested only in ensuring that EBS white space spectrum be reserved for commercial auction. Sprint's approach, in comparison, is far more balanced. A 10% overlap threshold will rationalize EBS spectrum licenses, the most important thing the Commission can do to bolster 2.5 GHz deployments, while leaving ample 2.5 GHz EBS spectrum for further licensing, whether via priority filing windows or by auction.

III. CURRENT EBS LICENSEES AND LEASING ARRANGMENTS SHOULD NOT BE DISRUPTED

Sprint agrees with NEBSA/CTN, Voqal,[24] and HITN, that given the success of existing EBS partnerships between educators and wireless carriers, the Commission should ensure that any new EBS rules do not disrupt current licensees and leasing arrangements.[25] Maintenance of

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20 Educational Broadband Corp. Comments at 1.

21 NACEPF Comments at 34 ("To begin with, we believe the most efficient way to handle rationalization of existing licensees' GSAs is to automatically expand these GSAs based on the methodology the Commission chooses to adopt (census tracts or county boundaries, with or without a threshold).").

22 Voqal Comments at 18 (The Commission can process "license rationalization automatically").

23 VIYA Comments at 14.

existing lease relationships is also critical to provide certainty for educators who rely on the funds and services supplied under leasing arrangements and for commercial providers such as Sprint who deliver broadband services to educational partners and consumers across the nation.[26] As Voqal notes, "Undermining existing lease agreements could potentially interrupt current operations, delay or diminish future 5G deployments, and disrupt the delivery of educational services."[27]

If the Commission modifies or eliminates the educational use rules, it should do so in a way that does not materially impact existing EBS leasing arrangements. Sprint's initial comments took no position on whether the Commission should eliminate or adjust the educational use requirements in Section 27.1214 of the Commission's rules. Most commercial providers who commented on the issue, meanwhile, sought outright elimination of these antiquated rules. Sprint agrees that these rules are ripe for re-evaluation given the current uses of the 2.5 GHz EBS band. If the educational use and reservation rules are retained in some fashion, a modernized method of ensuring or certifying educational use, perhaps through a list of safe harbor options, might provide appropriate flexibility for both EBS licensees and commercial operators with whom they partner to meet these new educational requirements. Sprint looks

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[24] Voqal Comments at 6 ("The Commission should approach the above policy objectives in a manner that does not disrupt existing lease agreements between incumbent licensees and commercial providers, which have been encouraged by the Commission and are working as intended.")

[25] NEBSA/CTN Comments at 15.

[26] HITN Comments at 4 ("The NPRM correctly avoids any suggestion that existing excess capacity leases should be invalidated or significantly amended to facilitate or comply with proposed EBS Rule changes. Both commercial lessees and educational lessors, have invested in services and equipment, in substantial reliance on the negotiated terms of their existing leases, and the Commission should make no rule changes that would interfere with or substantially alter such contractual rights and obligations.")

[27] Voqal Comments at 6.

forward to proposals for additional workable solutions from the educational community, and it agrees with major EBS commenters that any changes to these rules should be prospective and not have a retroactive effect on current arrangements.[28]

Sprint does not agree, however, with the capacity-based models for educational usage proposed by Voqal[29] and NACEPF.[30] These models are unnecessarily complex and rely on metrics that do not provide proper incentives for the commercial operator or the EBS licensee to meet the Commission's goals in this proceeding. Furthermore, a focus on the right educational capacity "allotment of data throughput proportional to the spectrum [contributed by and EBS licensee]"[31] for yet-to–be-designed-or-deployed 5G networks does not further the Commission's goal of enhancing the utility of this band. NACEPF proposes that educational usage capacity be tracked and averaged on an annual basis.[32] Sprint appreciates NACEPF's acknowledgement that educators' need for this capacity set aside will "vary on a daily and monthly basis, particularly over the summer [and] the licensee should not be obligated to use every kilobyte of reserved capacity each month."[33] However, Sprint believes NACEPF's proposed solution to account for

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28 Sprint agrees with NEBSA/CTN that in the event there are rules changes regarding educational use that existing spectrum leases be grandfathered and that any changes to educational use requirements go into effect after any current lease term expires. *See* NEBSA/CTN Comments at 19, footnote 42. *See also* Voqal Comments at 16 ("Any new educational use standard should grandfather existing lease agreements until the end of the lease term.") and NACEPF Comments at 1 ("To avoid disruption of existing lease agreements, we propose that any new educational use rules are addressed prospectively for current EBS licensees at the end of their current lease terms.")

29 Voqal Comments at 15-16.

30 NACEPF Comments at 28-33.

31 Voqal Comments at 15.

32 NACEPF Comments at 32.

33 NACEPF Comments at 32.

this variability, including various additional reporting requirements, is unnecessarily burdensome on EBS licensees and their lease partners.

IV. THE COMMISSION SHOULD NOT USE INCENTIVE AUCTIONS TO DISRUPT THE EXISTING 2.5 GHZ FRAMEWORK WHICH HAS PRODUCED 4G AND IS POISED TO DELIVER 5G SERVICES

Like Sprint, many commenters oppose the use of an Incentive Auction to reconfigure the EBS band.[34] As it detailed in its comments, Sprint and many other operators have long-term lease arrangements with the vast majority of existing EBS licensees involving thousands of EBS licenses.[35] These leasing agreements were encouraged by the Commission to support wireless broadband deployment, and the Commission has approved all of these arrangements. Most of these lease arrangements would prevent EBS licensees from offering their spectrum in the reverse phase of an Incentive Auction.[36] AT&T's support for an incentive auction does not acknowledge the successful deployments at 2.5 GHz by Sprint and other carriers, or the long-term contractual rights and obligations under the long-term leases that enabled significant financial investments toward these deployments. In ignoring these realities, AT&T's outlier position appears designed simply to disrupt Sprint's and other carriers' operations in the 2.5 GHz band.

AT&T urges the Commission to conduct an Incentive Auction simultaneously with an auction for unassigned white space spectrum,[37] without taking into account the long-term contractual rights of existing EBS licensees and their carrier partners. Contrary to AT&T's

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34 Sprint Comments at 13-15; WCA Comments at 32; HITN Comments at 2; Voqal Comments at 25; NACEPF Comments at 49-51.

35 Sprint Comments at 3.

36 Sprint Comments at 14; WCA Comments at 33.

37 AT&T Comments at 6.

assertion, most EBS licensees have long-term commitments and do not have a unilateral right to offer up their licenses for bidding or to participate in an Incentive Auction. It is therefore unclear how "vigorous bidding"[38] would occur under AT&T's proposal. Sprint also vehemently objects to AT&T's legally questionable assertion that the Commission could interfere in legally-binding agreements (many of these which have over twenty years remaining in their terms) or modify the terms and conditions of carriers' private secondary market lease arrangements, much less terminate those leases early to promote participation in a "voluntary" Incentive Auction.[39] For all of these reasons, an Incentive Auction in the 2.5 GHz band would not be workable and would disrupt the existing productive partnerships between EBS licensees and their commercial partners.

V. CONCLUSION

For all of the aforementioned reasons, Sprint urges the Commission to take the actions in this proceeding described in these Reply Comments.

Respectfully submitted,

/s/ James B. Goldstein

James B. Goldstein, Senior Counsel
Gardner Foster, Senior Counsel
Legal and Government Affairs
Sprint Corporation
900 7th Street, NW, Suite 700
Washington, DC 20001
(703) 433-4212

Regina M. Keeney
Stephen J. Berman
Lawler, Metzger, Keeney & Logan, LLC
1717 K Street, NW, Suite 1075
Washington, DC 20006
(202) 777-7700

Counsel for Sprint Corporation

September 7, 2018

[38] AT&T Comments at 6.

[39] A&T Comments at 8.